Commonwealth of Virginia's Communications Interoperability

Sharing Data Across the Commonwealth

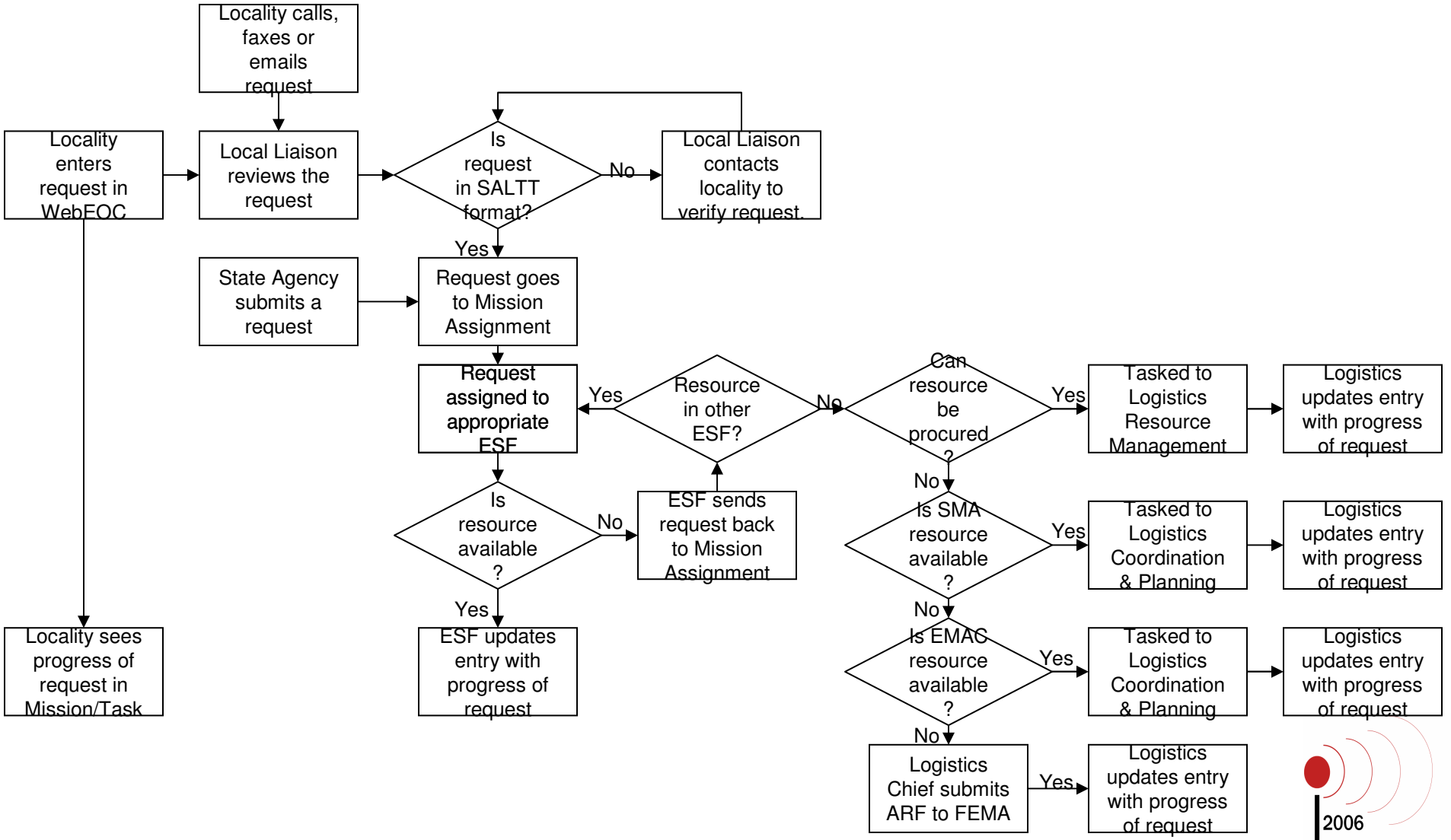
WebEOC in the Virginia Emergency Operations Center

Harry E. Colestock,III

State WebEOC Business Processes

- Requests for Assistance
  - Mission Tracking to Completion
- Common Operating Picture
  - Situation reports
  - Damage Assessments
  - Maps
- Resources

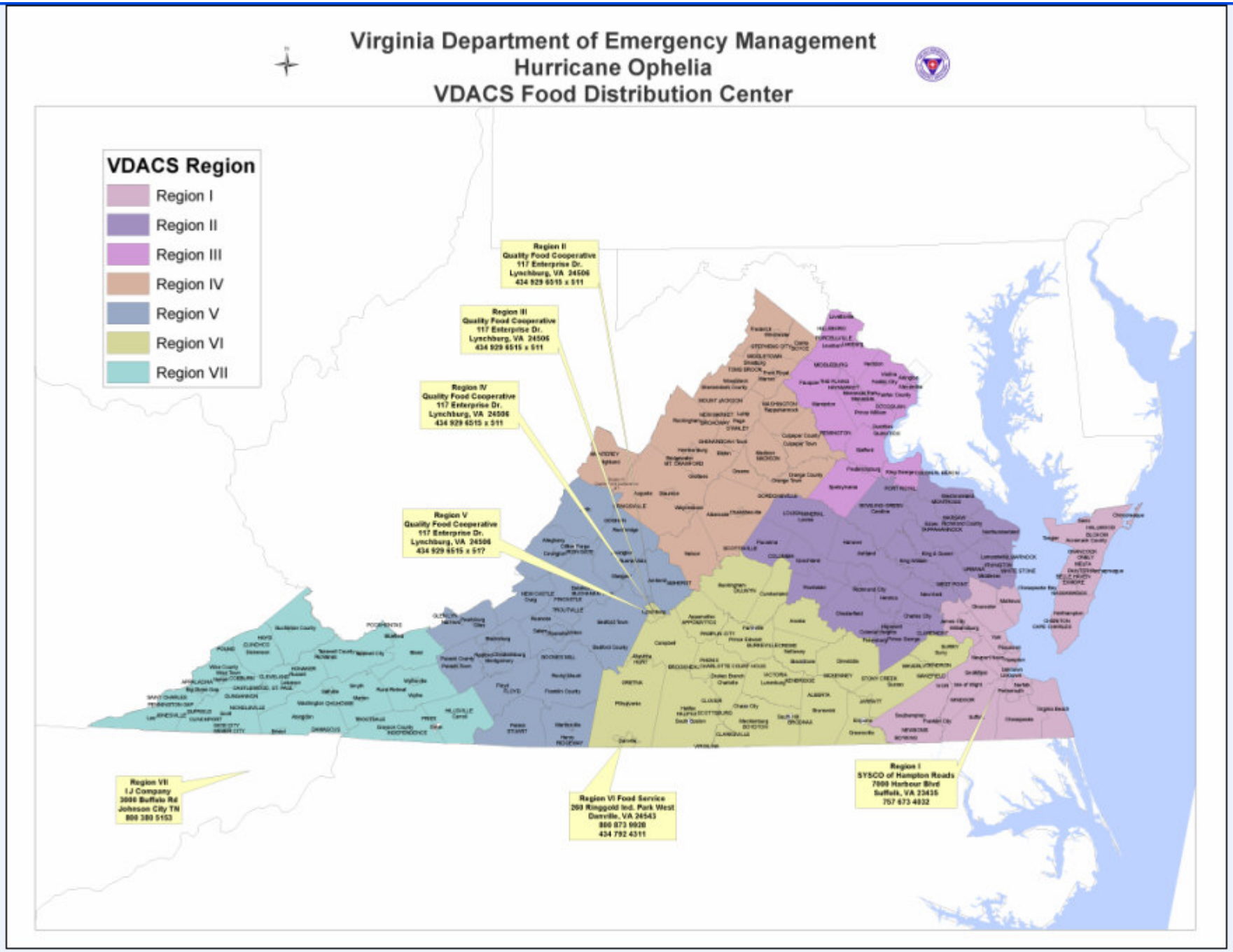
Mission Assignment Process

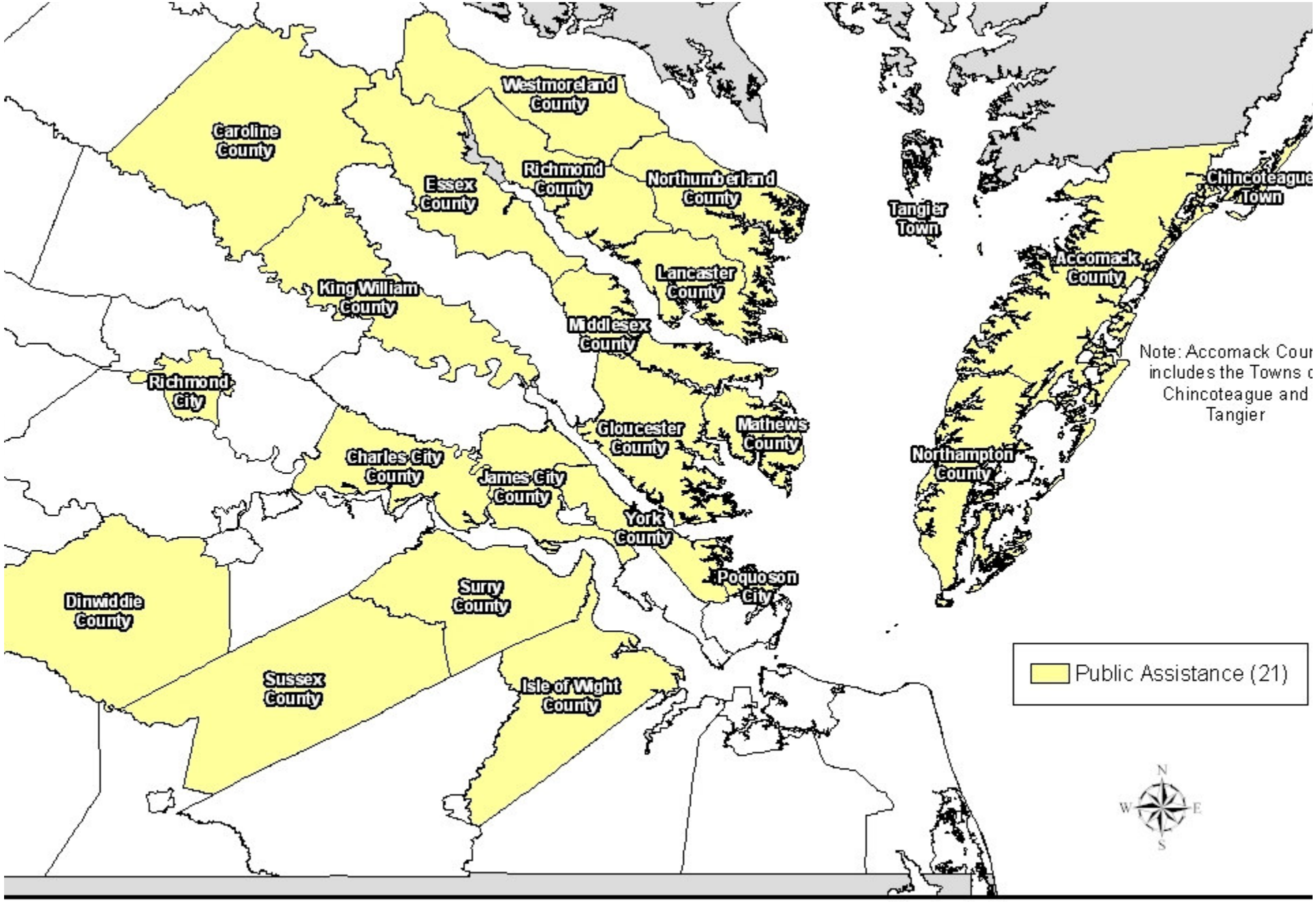


Reporting

- Situation Reports
  - EOC Activations
  - Emergency Declarations
- Damage Assessments

Virginia Department of Emergency Management
Hurricane Ophelia
VDACS Food Distribution Center





VIRGINIA DEPARTMENT

Current Through Presidential Declaration - 09/22/2006

FEMA-1661-DR, Virginia
Disaster Declaration as of 09/22/06

WebEOC live

- http://webeocserver/eoc6/

Questions?

Harry E. Colestock,III
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harry.colestock@vdem.virginia.gov

CapWIN

Capital Wireless Information Net

Building a Bridge in Transportation and Public Safety Communications

UNIVERSITY OF MARYLAND

Summary Presentation
October 9, 2006

2006 Virginia Interoperable Communications Conference

Today's Presentation

The Capital Wireless Information Net (CapWIN)

The Why? What? Who? Where? How? and What's Next?

CapWIN Mission (Why)

The CapWIN Coalition promotes and enables interoperable data communications, access to operational data, and incident coordination to public safety, transportation, and other first responder agencies in the field, across Maryland, the District of Columbia, Virginia, and the federal government in order to strengthen their collective ability to secure the welfare of the public.

CapWIN Provides (What):

- Interoperable Data Communications
- Secure Operational Data Access for Field Users
- Incident Coordination Tools

CapWIN Focus (Who)

- Field Users:
  - Data Exchange: Center-to-Field & Field-Center
  - Data Communication (Messaging): Multi-disciplinary; Multi-jurisdictional
  - Coordinating Activities & Information About "Incidents"
  - Client Optimized for Wireless Environments (High or Low Bandwidth)
  - Network Designed for Secure Access (256 Bit Encryption – Closed Network for Law Enforcement)

CapWIN Board of Directors (Who/Where)

Participants / Agencies	Directors
State of Maryland Governor's Appointment	**John Contestabile,** *Maryland Homeland Security* **Robert Biemiller**, *Maryland State Police*
Maryland Local Agencies	**Marilyn Praisner,** *Councilmember, Montgomery County* **Chief Ron Blackwell,** *Anne Arundel County Fire Department* **Emil Wolanin,** *Public Works & Transportation Montgomery County*
Commonwealth of Virginia Governor's Appointment	**Chris Essid,** *Virginia Department of Public Safety* **Dick Steeg**, *Virginia Department of Transportation*
Virginia Local Agencies	**Chief Rick Rappoport,** *Fairfax City Police Department* **Chief Gary Mesaris,** *City of Alexandria Fire Department* **Chairman Gerald Connolly,** *Fairfax County Board of Supervisors*
District of Columbia Mayor's Appointment	**Edward D. Reiskin**, *Deputy Mayor for Public Safety and Justice* **Michelle Pourciau,** *Acting Director, Department of Transportation*
District of Columbia Local Agencies	**Chief Charles Ramsey**, *Metropolitan Police Department* **Suzanne Peck**, *Chief Technical Officer* **William Curry,** *Telecommunications Director, D.C. Emergency Management Agency*
Federal Government	**Dr. David Boyd**, *Project SAFECOM, US Department of Homeland Security* **Chip Nottingham**, *US Department of Transportation* **Michael Duffy**, *US Department of Justice*
Federal Operational Agencies	**Chief Dwight Pettiford,** *United States Park Police* **Richard Keevill**, ***Chief, Pentagon Force Protection Agency***
Regional Authorities	**Elmer Tippett Jr,** *Vice President for Public Safety, Metropolitan Washington Airport Authority* **Dan Tangherlini**, *Washington Metropolitan Area Transit Authority*
TOTAL	22 Commissioners

CapWIN User Agencies (Who/Where)

Virginia

- Virginia State Police
- Alexandria Police Department
- Arlington Police Department
- Charlottesville Fire Department
- Fairfax County Police Department
- Fairfax County Fire and Rescue
- Fairfax County Office of Emergency Management
- Fairfax City Police Department
- Franklin Police Department
- Norfolk Police Department
- Prince William County Police
- Virginia Department of Transportation
- Waynesboro Police Department
- Waynesboro Fire Department
- Waynesboro Emergency Management

Maryland

- Maryland Coordination and Analysis Ctr.
- Maryland Natural Resources Police
- Maryland State Police
- Maryland Department of Transportation/State Highway Admin.
- Maryland Transportation Authority Police
- Baltimore County Fire Department
- Baltimore County Office of Homeland Security and Emergency Management
- Baltimore County Police Department
- Cottage City Police Department
- Easton Police Department
- Hampstead Police Department
- Howard County Police Department
- Laurel Police Department
- Laurel Emergency Services
- Manchester Police Department
- Montgomery County Police
- Mount Rainier Police Department
- Frederick County DFRS
- Ocean Pines Police Department
- Prince George's County Police Dept. and Public Safety Communications
- Riverdale Park Police Department
- Westminster PD

D.C./Federal/Regional

- Metropolitan Police Department
- District Department of Transportation
- District Fire/EMS
- United States Park Police
- FBI Police Department
- Pentagon Force Protection Agency Police (PFPA)
- PFPA Chemical, Biological, Radiological, and Nuclear Directorate
- PFPA Anti-Terror/Force Protection
- Central Intelligence Agency Police
- IACP
- US Capitol Police
- Metropolitan Washington Airports Authority Police Department
- Metropolitan Washington Airports Authority Fire and Rescue
- Texas State Guard
- United States Marine Corps
- USCIS Office of Security Investigations

CapWIN Availability

- CapWIN is Currently Available to all Agencies Throughout Virginia, Maryland, and D.C.
- CapWIN is in the Process of Developing a Long-Term Fee Schedule to be Implemented in a Phased Approach
- During FY07, CapWIN is also Slated to Receive Grant Funds to Support Additional Development and Deployment

What is a CapWIN Incident?

Any Event that May Have a Regional Impact or Benefit From Multi-Jurisdictional/Multi-Disciplinary Participation or Awareness.

- Transportation – Highway Lane/Shoulder Closures, Accidents
- Law Enforcement – BOLO, Police Activity
- Special Event – July 4th, Ernesto
- Alerts – Amber, RICCS
- Emergency Management – WebEOC Log
- Other NIMS Incident Types – Terrorism, Fires, Floods, HAZMAT, Nuclear, etc. (CapWIN Supports NIMS "Incident Management Communications")

Camera Phone Pilot

Live Field Data From Scene

Operational Update (What)

- CapWIN Use Continues to Expand
  - Incidents: +3,000/Month
  - Queries: +70,000/Month
  - Participants: +900 Users/Month
  - Individual Messages: +4,000/**DAY**
- Multi-Jurisdictional and Multidisciplinary Incidents Continue to be Utilized
  - July 4th
  - Ernesto
  - Bike Week

Core Technology (How)

- Technology Standards:
  - TCP/IP, XML (GJXDM, ATIS), CAP, HTML, IEEE 1512
- Open, Scalable, Reliable Web Services-Based Architecture
- Extensive use of Commercial-Off-the-Shelf (COTS) Software
- Efficient use of Limited Bandwidth for Wireless Systems
- Modular, & Designed to Easily Grow & Expand System Capacity

Future Enhancements (What's Next?)

- ITS Funded Enhancements to Incorporate Field Reporting and Bi-Directional Data Exchange Between Transportation Centers and Field Personnel (Both Transportation and Public Safety) via RITIS
- Tighter (Automated) Integration with Regional WebEOC Data
- CAD Data Integration via NCR Data Exchange Hub Initiative
- Automated Integration of Alert Data
- Revised "Incident" Interface to Better Manage Multiple Data Feeds
- More Robust GIS (EMMA/MEGIN) Integration – Automated and Customizable Maps to Support Incident Coordination
- Working with MD, VA, and D.C. to Identify, Access, and Integrate Additional Data Sources, such as, Drivers License Photos, Live Traffic Camera Video, etc.

Questions and Answers

Capital Wireless Information Net (CapWIN)

6305 Ivy Lane Suite 300
Capital Office Park
Greenbelt, MD 20770

301-614-3728

www.capwin.org

Sharing Data Across the Commonwealth

Disaster Management Program
Office for Interoperability and Compatibility (OIC)
Department of Homeland Security

Voice and Data Interoperability Programs

The communications portfolio of OIC is currently comprised of the Disaster Management (DM) and SAFECOM programs.

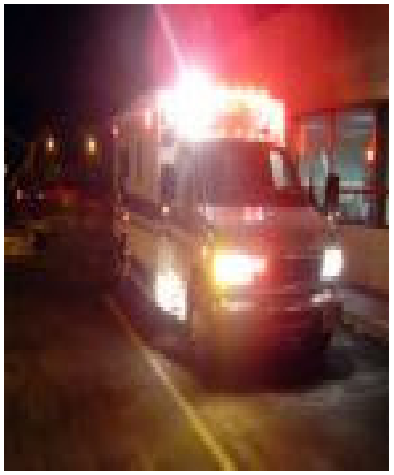
DM is improving incident response and recovery by **developing tools and messaging standards** that help emergency responders **manage incidents and exchange information in real time**.

SAFECOM is creating the capacity for increased levels of interoperability by **developing tools, best practices, and methodologies** that emergency response agencies can put into effect immediately, based on feedback from emergency response practitioners.

DM and SAFECOM are providing Virginia emergency responders with resources intended to address all aspects of communications interoperability.

Defining the Problem

Emergency responders often **have difficulty exchanging voice and data communications** when adjacent emergency response agencies are assigned to different radio bands, use incompatible proprietary systems and infrastructure, and lack adequate standard operating procedures and effective multi-jurisdictional, multi-disciplinary governance structures.



Effective communications can mean the difference between life and death.

DM's Objectives

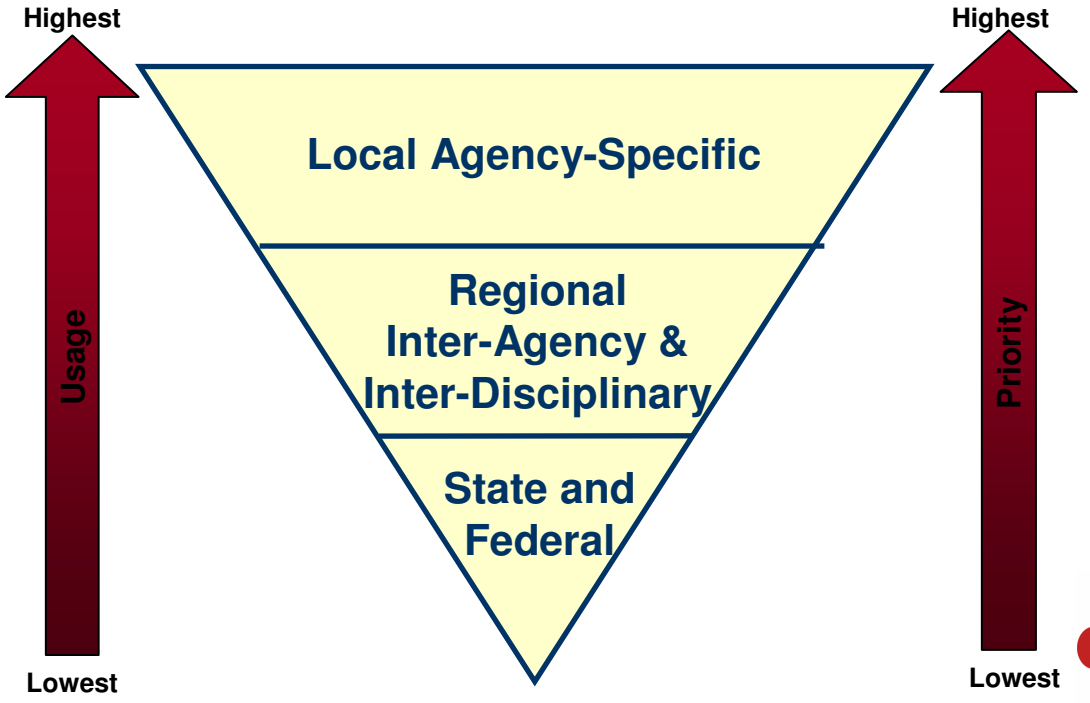
- ✓ Meet the Nation's need for **single access point** for disaster management information.
- ✓ Facilitate the development of **data messaging and information-sharing standards** for emergency response.
- ✓ Support the **infrastructure** necessary to share information.
- ✓ Ensure that emergency responders have the **tools they need to manage incidents and share incident-related** information.

These objectives help the Nation achieve the capacity to securely share information across its emergency response community.

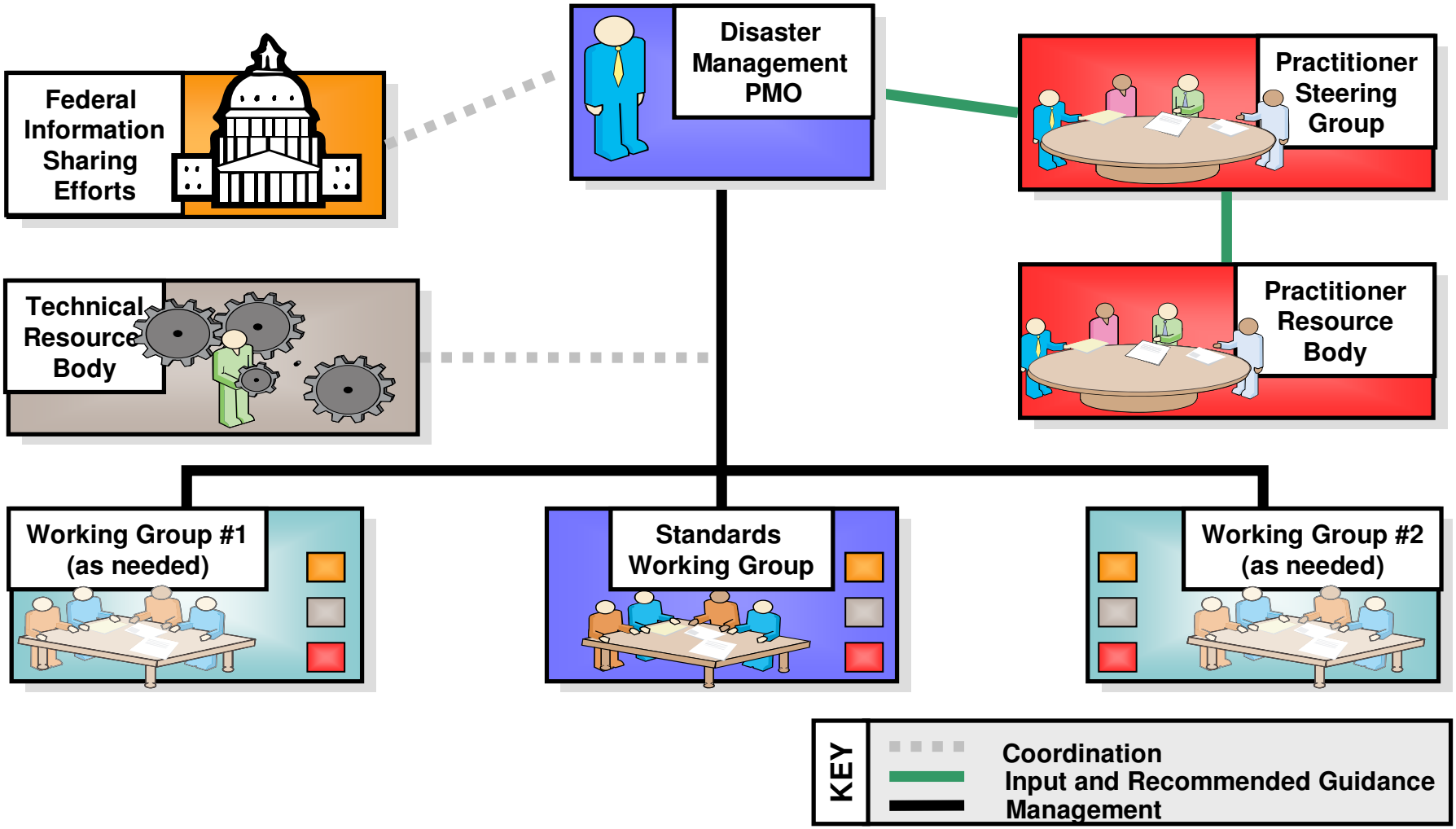
Practitioner-Driven Approach

DM and SAFECOM both advocate a unique, **"bottom-up" approach**. The practitioner-driven governance structures benefit from the critical input of the emergency response community and from local, tribal, state, and Federal policy makers and leaders. This input ensures that OIC resources are aligned with state and local needs.

- **DM's Practitioner Steering Group (PSG),** comprised of representatives from key emergency response and policy making associations, ensures that initiatives and tools effectively meet practitioners' information-sharing priorities and requirements.



Disaster Management Governance Structure



Homeland Security

DISASTER MANAGEMENT

DM Components

Data Messaging Standards Initiative

- Practitioner-driven, public-private partnership that creates information sharing capabilities between disparate emergency management software applications and systems

www.DisasterHelp.gov

- Web portal that provides a wealth of information for the general public and free services for the emergency response community

Disaster Management Interoperability Services (DMIS)

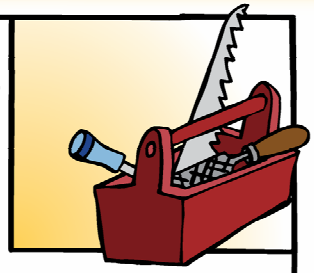
- Software that offers emergency responders basic emergency-management software tools that work with any operating system

Open Platform for Emergency Networks (OPEN)

- Platform (or “backbone”) that enables emergency managers using different software packages to share incident-related information in real time

DM Components

Disaster Management Interoperability Services (DMIS)



DMIS is a no-cost emergency management software toolset that provides:

- Authorized users the ability to exchange incident-related information.
- Shared geographic maps and imagery.
- Basic emergency management tools.

What does it do for me?

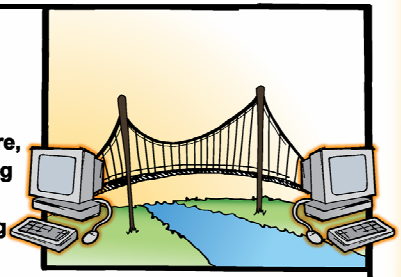
Emergency responders can share information in real-time, to better:

- prepare for,
- respond to,
- and recover from emergencies.

Who Uses DMIS?

- Emergency responders

Open Platform for Emergency Networks



OPEN bridges different emergency management software, systems, and devices by allowing other systems and software to securely share information using the DM network.

What does it do for me?

OPEN enables emergency responders using different software and systems to share incident-related information.

Who Uses OPEN?

- Emergency responders
- Industry

DisasterHelp.gov

DisasterHelp.gov is an internet-based web portal that provides access to:

- Disaster-related information for all citizens.
- Collaboration and support tools (e.g. Readiness Assessment tool) for the emergency response community.
- Access to government disaster-related resources.

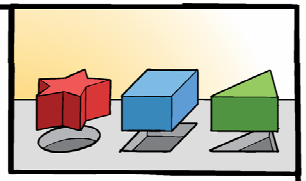
What does it do for me?

- Emergency responders can work together by securely sharing information and best practices.
- Citizens can find information on how to prepare for and recover from disasters.

Who Uses DisasterHelp.gov?

- Emergency responders
- Citizens

Standards Development



The DM standards initiative is:

- A practitioner-driven effort to develop response operation messaging standards for sharing information.
- A public-private partnership to ensure industry includes standards in their systems and software.

Who Uses Standards?

- Emergency responders
- Industry

What does it do for me?

- Standards ensure the information emergency responders send and receive is understood by all parties and will produce the results and actions they intend. This concise exchange of data prevents confusion and errors during incidents.
- Standards operate behind the scenes and don't require additional effort from users.
- Standards allow emergency responders using different software and systems to seamlessly share information.

2006

DM Components

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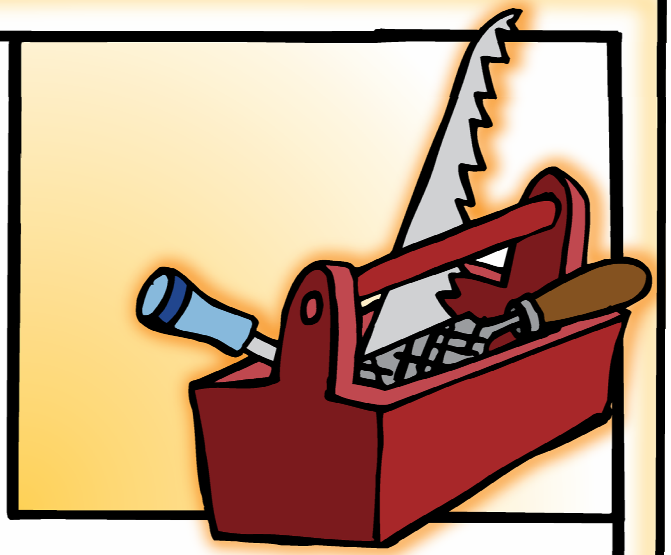

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2006

DM Components

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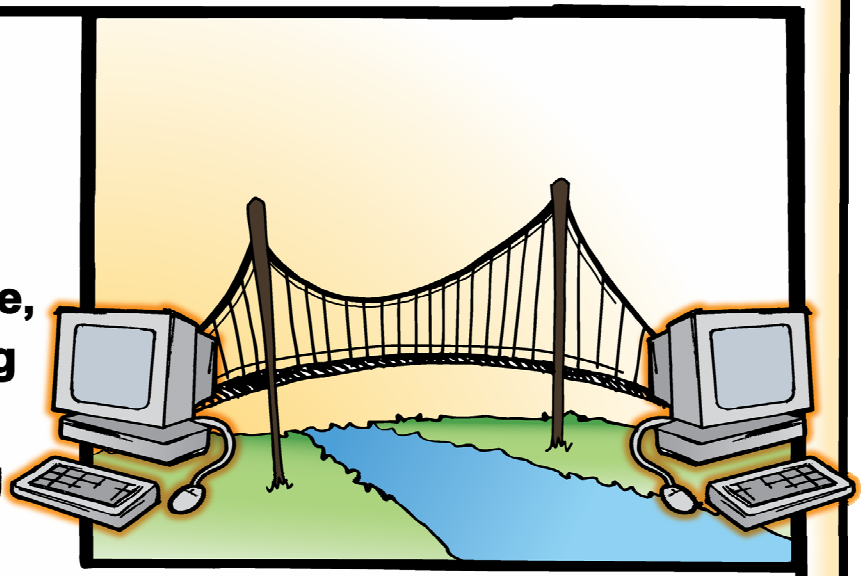

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Who Uses OPEN?

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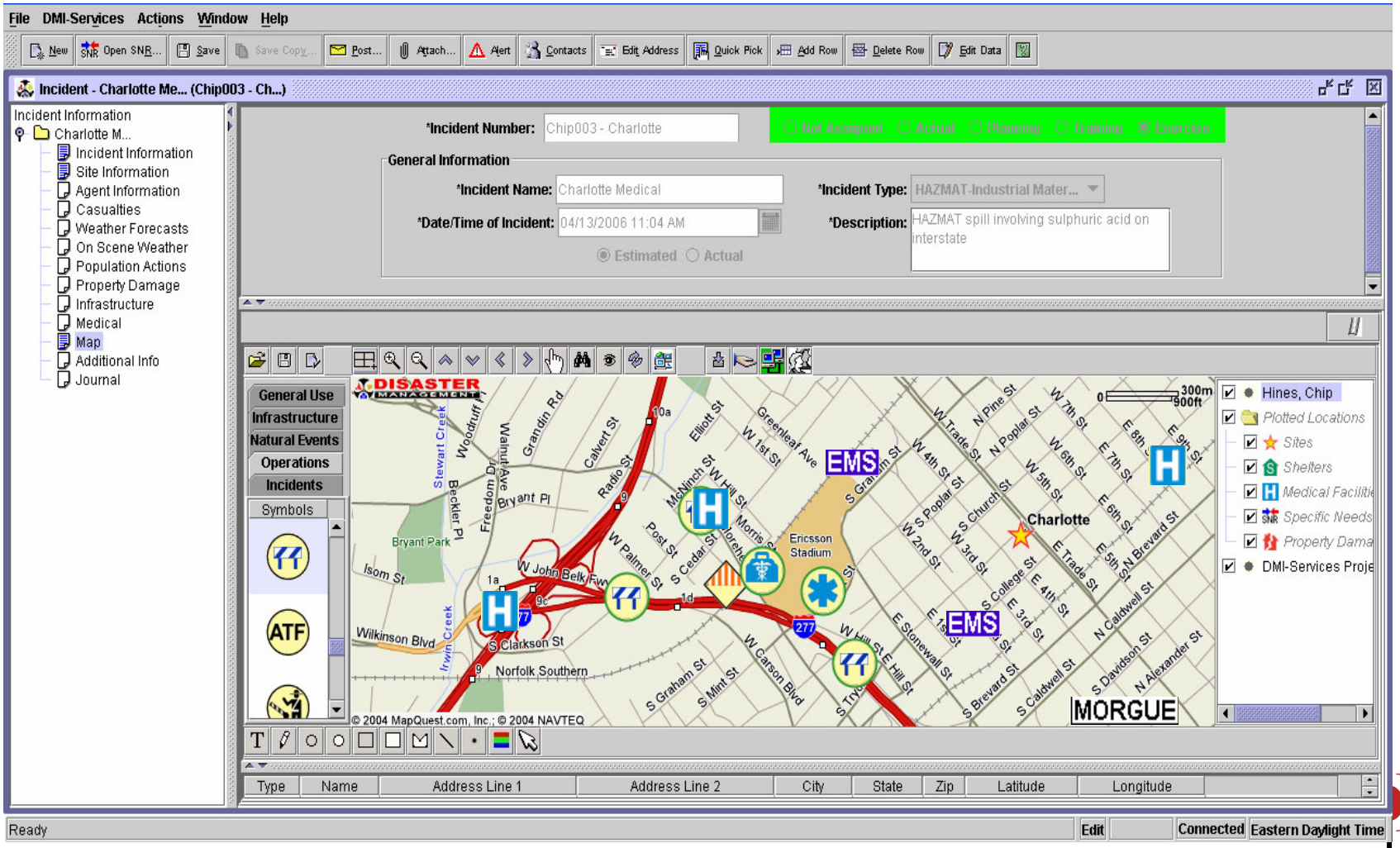
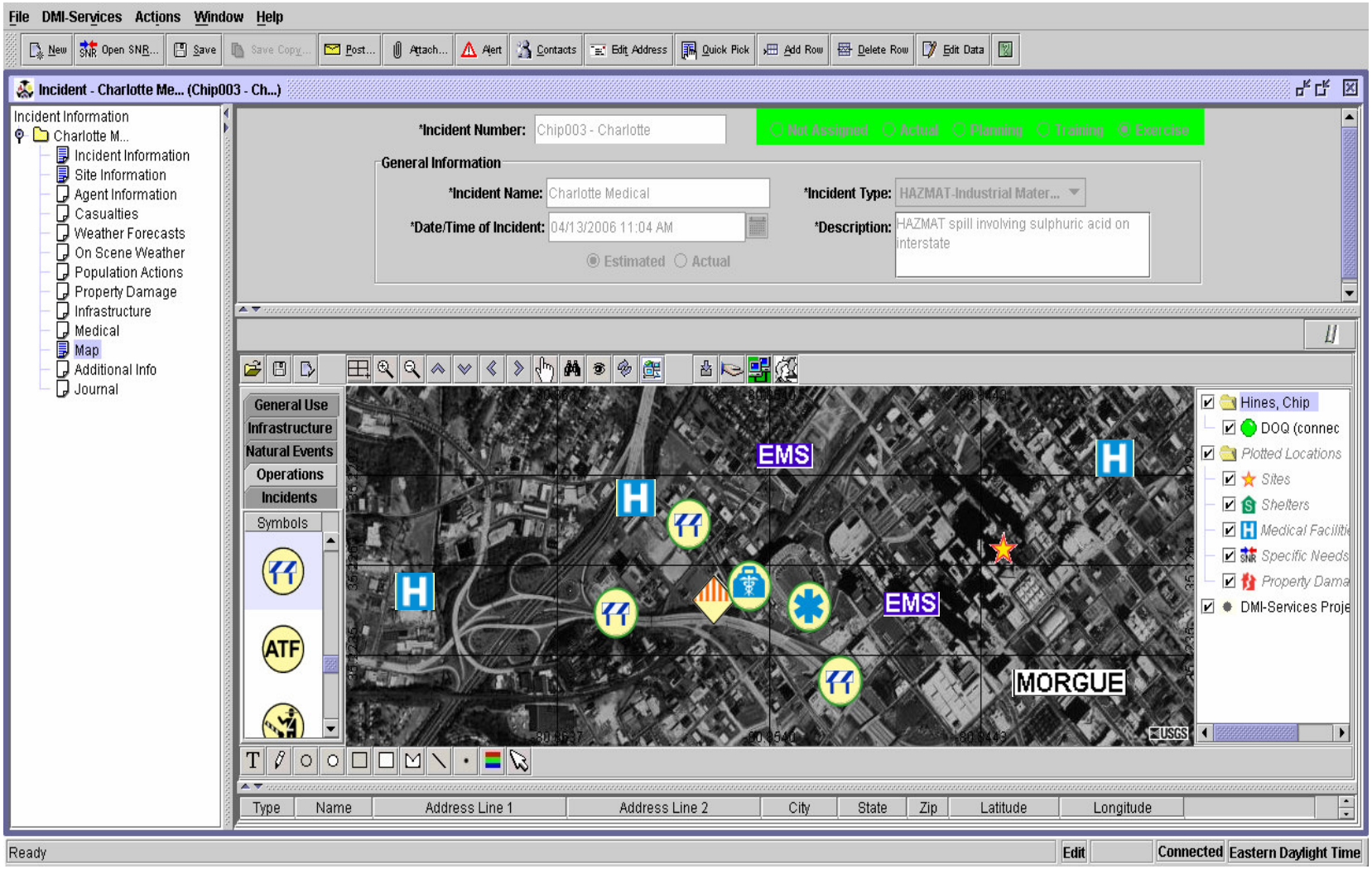
- Industry

2006

DMIS Shared Mapping



DMIS Ortho-Imagery Layer



DM Components

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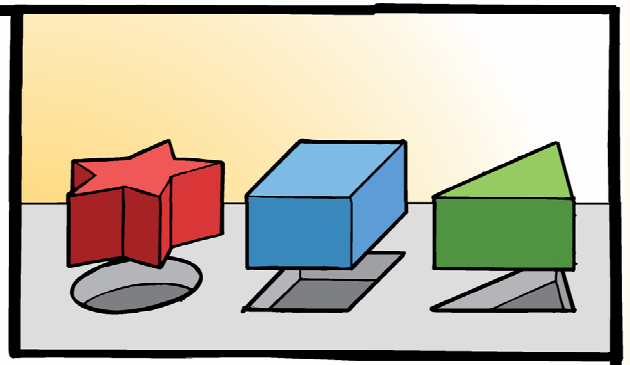

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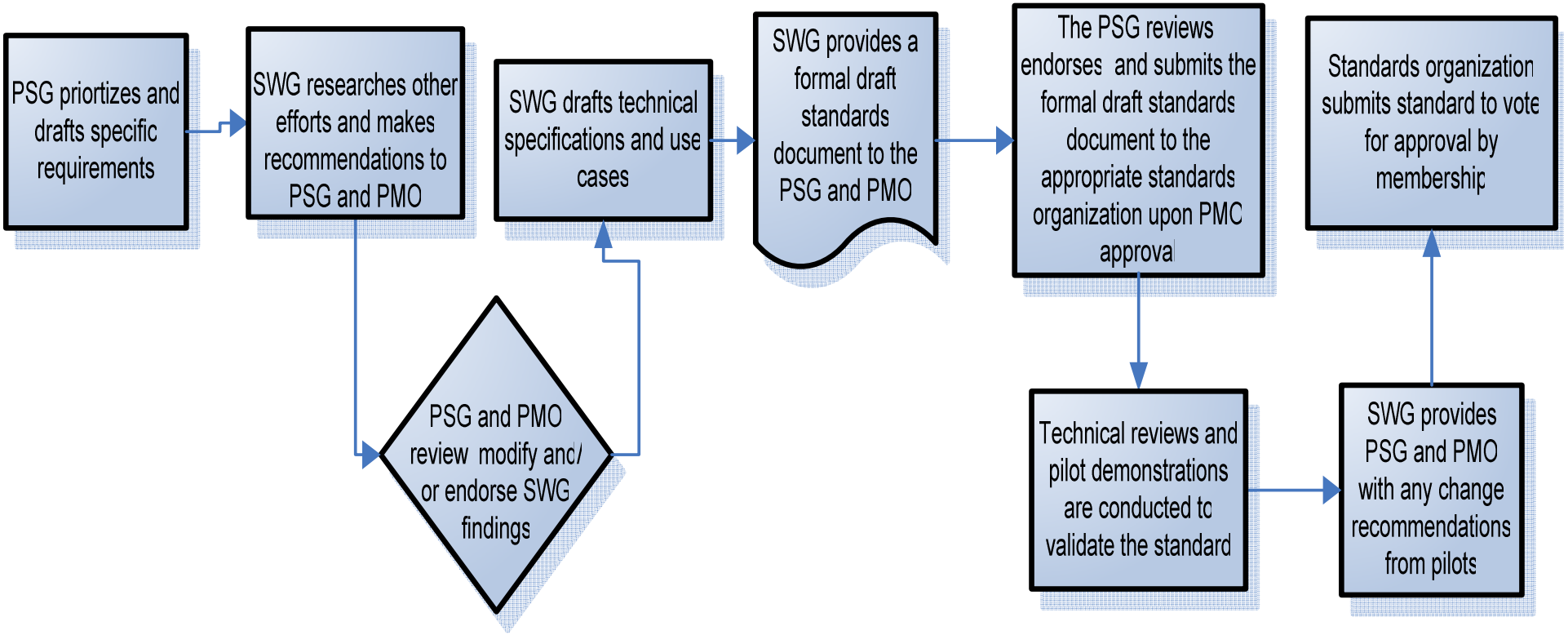
2006

Standards Development Process



National Information Exchange Model

- **National Information Exchange Model (NIEM)** was launched in February, 2005, as a partnership agreement between the U.S. Departments of Justice (DOJ) and Homeland Security (DHS) to develop, disseminate and support enterprise-wide information exchange standards.

- DM is actively involved in the development of NIEM.
  - DM is a member of the Leadership Committee and leads the Emergency Management domain.
- DM's draft standards and OASIS-adopted EDXL standards are planned for the **release of NIEM 1.0 this month.**
  - Implementation tools and training curriculum for using NIEM are in development

Status of Data Messaging Standards

- **Distribution Element (DE**): DE 1.0 was adopted as a standard in April 2006. DE provides flexible message-distribution framework for emergency information systems data sharing. Messages **may be distributed by specific recipients, by a geographic area, or by other codes such as agency type** (police, fire, etc.)
  - Piloted with the DOD "Cursor on Target" (CoT) standard. The CoT package was routed by the DE as a proof of concept for cross-domain exchange with DOD.
- **Hospital AVailability Exchange (HAVE):** HAVE was submitted to OASIS in January 2006. HAVE provides **standard exchange of hospital status, capacity, and resource availability** between medical and health organizations and emergency information systems.
  - Currently piloting development of the DE routing a HAVE exchange message utilizing NIEM tools

Data Messaging Standards (cont.)

- **Resource Messaging (RM)**: RM was submitted to OASIS in January 2006. RM **provides standard exchange of resource information** (persons or things) needed to support emergency and incident preparedness, response, and recovery.
  - Draft RM used in the National Capital Region (NCR) Data Exchange Hub (DEH) demonstration project. Resource messaging was seamlessly exchanged across 19 jurisdictions across DC, Maryland and Virginia
- **Next Standards**
  - "**Situation Information** / **ICS forms**" – NEW priority given by the Practitioner Steering Group (PSG) and DM's Standards Working Group (SWG) is currently in early research phase. Focus: To more easily share common sets of information related to Incident Situation/Status, as well as Response/Capabilities and Status information.

Common Alerting Protocol V1.1

- CAP v1.1 was adopted as a standard on October 1, 2005.
  - International Telecommunication Union to adopt CAP as an international standard in October, 2006
- CAP provides the **ability to exchange all-hazard emergency alerts, notifications, and public warnings, which can be disseminated simultaneously over many different warning systems** (e.g., computer systems, wireless, alarms, TV, radio).
- CAP provides a template for effective warning messages.
- CAP is based on best practices identified in academic research and real-world experience.

Partnering Efforts

- **National Information Exchange Model**
- **Emergency Interoperability Consortium**
- **National Oceanic Atmospheric Administration (NOAA) HazCollect**
  - Local emergency managers can input non-weather emergency messages via Common Alerting Protocol (CAP) for dissemination with NOAA Weather Radio.
  - Reduces alerting time from 7 minutes to 2 minutes
- **Department of the Interior (DOI) – U.S. Geological Survey**
  - Generating CAP notifications on all seismic activity, landslides and volcanic activity
  - Largest user of CAP alerts
- **DHS Biological Warning and Incident Characterization (BWIC)**
  - Using CAP and OPEN for all transport of data to state and local health providers

How You Can Get Involved

Governance:

- **Practitioners** interested in participating in DM's current and future activities should contact Chip.Hines@dhs.gov about the Practitioner Resource Body and the Standards Working Group.

Tools:

- **Practitioners** and **citizens** can begin using the **www.DisasterHelp.gov** portal today by visiting the site or by contacting Chip.Hines@dhs.gov for more information.

- **Practitioners** interested in trying a **free emergency management tool** can go to www.dmi-services.org for more information and download instructions.

- **Practitioners, industry, and others involved in emergency response systems** can go to https://interop.cmiservices.org/ to learn about writing to the **OPEN** interoperability backbone.

- **Industry and others interested** in DM's **standards** process should contact Chip.Hines@dhs.gov about the Standards Working Group and the Emergency Interoperability Consortium (EIC).

Connecting WebEOC and the Hospital & Healthcare Systems

Steve Ennis
Virginia Hospital & Healthcare Association